

ASSIGNMENT 5

Textbook Assignment: Unit 4, Lesson 4, "The Terminal Aerodrome Forecast (TAF) Code." Pages 4-4-1 through 4-4-12.
Unit 4, Lesson 5, "Tactical Environmental Support System (TESS) Products." Page 4-5-1 through 4-5-8.
Unit 4, Lesson 6, "OPARS Computer Flight Plans." Page 4-6-1 through 4-6-15

Learning Objective:
Identify the references that contain basic guidance about the TAF code.

- 5-1. Which publication provides information about the TAF code and should be used as the primary reference by all Navy personnel?

1. The AG2 Vol2 Training Manual
2. NAVOCEANCOMINST 3143.1, *The Terminal Aerodrome Forecast (TAF) Code instruction*
3. NAVAIR 50-1P-11, *International Meteorological Codes*
4. AWSR 105-27, *Terminal Aerodrome Forecast (TAF)*

Learning Objective: List five basic guidelines for composing a TAF.

- 5-2. Which guideline suggests that your forecast should cover all significant meteorological events in the entire 24 hour forecast period?

1. Be accurate
2. Be specific
3. Be complete
4. Be on time

- 5-3. Which guideline suggests you should strive to make every effort to transmit your forecast by the file time?

1. Be accurate
2. Be specific
3. Be complete
4. Be on time

- 5-4. Which guideline suggests that you should forecast specific times for the beginning and ending of all significant events?

1. Be accurate
2. Be specific
3. Be complete
4. Be on time

Learning Objective:
Identify the code groups used in the TAF code.

- 5-5. In which of the following situations may the G₁G₂G₃ be encoded as 2221?

1. If the TAF, due to be transmitted at 2100Z, is transmitted late (between 2130Z and 2229Z)
2. If an amended or corrected TAF is transmitted at 2221Z
3. If an amended TAF is transmitted between 2130Z and 2229Z
4. If the forecaster did not wish to discuss the weather between 2100Z and 2200Z, but transmitted the TAF by 2129Z

5-6. A forecaster, upon reviewing a copy of the TAP which has already been transmitted, finds a typographical error. What, if anything, should be done?

1. A corrected copy (COR) should be transmitted
2. An amended copy (AMD) should be transmitted
3. The TAP should be retransmitted immediately with nothing other than the errors changed
4. Nothing; a TAP should not be corrected and retransmitted if the error is only an obvious typographical error

- A. A CEILING, ORIGINALLY FORECAST AT 2,500 FEET, IS LATER FORECAST AT 3,200 FEET DURING THE SAME PERIOD.**
- B. THUNDERSTORMS ORIGINALLY FORECAST ARE LATER EXPECTED NOT TO OCCUR.**
- C. WINDS FORECAST TO BE 320° AT 43 KNOTS ARE LATER EXPECTED TO BE 300° AT ONLY 34 KNOTS.**
- D. THE FORECAST QNH OF 29.92 INCHES IS LATER EXPECTED TO BE 29.99 INCHES.**

FIGURE 5A

REFER TO FIGURE 5A TO ANSWER QUESTION 5-7.

5-7. Of the situations described in figure 5A, which cases require an amended TAP to be issued?

1. A, B, C, and D
2. Only A, B, and C
3. Only A and B
4. Only C and D

SITUATION

Winds are expected to be from 150°T variable 170°T at 14 knots gusting to 23 knots.

Skies are expected to be 1/8 of cumulus at 1,700 feet and 5/8 of altocumulus at 13,600 feet.

The visibility is expected to be 4 statute miles in haze.

The altimeter is expected to be 29.92 inches at the start of the period, rise to 29.97 inches, then fall to 29.91 inches by the end of the period.

FIGURE 5B

REFER TO THE SITUATION DESCRIBED IN FIGURE 5B TO ANSWER QUESTIONS 5-8 THROUGH 5-13.

5-8. What entry should be made for the wind group in the TAF code?

1. VRB14/23
2. 16023
3. 16014/23
4. 16018

5-9. What entry should be made for the visibility and weather groups in the TAP code?

1. 6000 05HZ
2. 6000 06HZ
3. 7000 05HZ
4. 7000 06HZ

5-10. What entry should be made for the cloud groups in the TAP code?

1. 1CU017 C5AC140
2. 1CU017 5AC140
3. 1CU017 C5AC136
4. 1CU017 C6AC136

- 5-11. What entry should be made for the QNH group?
1. QNH29921NS
 2. QNH29971NS
 3. QNH29911NS
 4. QNH 29.91 INS
- 5-12. What remarks should be entered for the situation described in figure 5B?
1. WND 150VRB170
 2. GUST23KT
 3. CIG136
 4. CIG140
- 5-13. If the haze in the situation described in figure 5B is obscuring 2/8 of the sky, what additional remark should be added to the remarks section?
1. -X2HZ
 2. 2HZ///
 3. 2FG///
 4. 2HZ140
- 5-14. If the minimum temperature (T_{\min}) is expected to be 31°F at 1015Z, how should this information be encoded?
1. 01031
 2. 03110
 3. 0MO110
 4. 010M01
- 5-15. Which of the following correctly decodes the icing group 670119?
1. Severe mixed icing 1,100 to 10,000 feet
 2. Severe mixed icing 1,100 to 10,100 feet
 3. Severe mixed icing 11,000 to 20,000 feet
 4. Severe mixed icing 1,100 to 2,000 feet
- 5-16. How should you encode light occasional moderate clear air turbulence (CAT) from 12,100 feet to 17,400 feet?
1. 521216
 2. 521215
 3. 541216
 4. 541215
- 5-17. What reference covers in detail the proper abbreviations that may be used in TAP code remarks?
1. NAVOCEANCOMINST 3143.1
 2. FAA Handbook 7340.1
 3. NAVAIR 50-1P-11
 4. AWSR 105-27
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- Learning Objective:
Identify the change groups and state when these groups should be used in a TAP.
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- A. NUMEROUS SHORT DURATION RAPID FLUCTUATIONS FROM THE PREVAILING CONDITIONS.**

B. CHANGES IN THE PREVAILING CONDITIONS THAT WILL OCCUR OVER A PERIOD OF 1/2 TO 2 HOURS.

C. CHANGES IN THE PREVAILING CONDITIONS THAT WILL TAKE PLACE OVER A PERIOD LASTING LESS THAN 1/2 HOUR.

D. ONE OR TWO FLUCTUATIONS FROM THE PREVAILING CONDITIONS, EACH LASTING LESS THAN 1 HOUR.
- FIGURE 5C**
- FOR QUESTIONS 5-18 THROUGH 5-21, CHOOSE THE DESCRIPTION FROM FIGURE 5C THAT BEST DESCRIBES THE CHANGE GROUP LISTED.

5-18. RAPID.

1. A
2. B
3. C
4. D

5-19. GRADU.

1. A
2. B
3. C
4. D

5-20. TEMPO.

1. A
2. B
3. C
4. D

5-21. INTER.

1. A
2. B
3. C
4. D

IN ANSWERING QUESTIONS 5-22 THROUGH 5-25,
REFER TO THE SAMPLE TAP IN THE TRAMAN ON
PAGE 4-4-11.

5-22. What is the lowest altimeter
setting during the 2-hour window
from 1700Z to 1900Z?

1. 30.01 in
2. 29.95 in
3. 29.98 in
4. 29.99 in

5-23. What is the prevailing visibility
between 2100Z and 2300Z?

1. 480 meters
2. 800 meters
3. 4,800 meters
4. 8,000 meters

5-24. Between 2300Z and 1500Z, when are
the skies forecast to be cloud
free?

1. From 2300Z to 1500Z
2. From 0100Z to 1500Z
3. From 0200Z to 1500Z
4. From 0300Z to 1500Z

5-25. What is the maximum and minimum
temperature forecast?

1. 19°C max. 12°C min
2. 18°C max. 08°C min
3. 19°C max. 08°C min
4. 18°C max. 12°C min

Learning Objective:
Identify the five basic
functions of TESS.

5-26. Which of the following TESS
functions provides information
about sensor range and sensor
coverage?

1. Environmental Analysis
2. Sensor/Weapon System
Performance Predictions
3. Briefing Support Data
Presentation
4. Data File Generation and
Maintenance

5-27. Which TESS function accepts various
input data and processes it for use
by the other functions?

1. Environmental Data Assimilation
2. Environmental Analysis
3. Briefing Support Data
Presentation
4. Data File Generation and
Maintenance

5-28. Which TESS function provides
safeguards for classified
information within TESS?

1. Environmental Analysis
2. Sensor/Weapon System
Performance Predictions
3. Briefing Support Data
Presentation
4. Data File Generation and
Maintenance

- 5-29. Which TESS function provides various tables and graphic displays tailored to suit each mission?
1. Environmental Analysis
 2. Sensor/Weapon System Performance Predictions
 3. Briefing Support Data Presentation
 4. Data File Generation and Maintenance
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- Learning Objective:
Identify the products available from TESS.
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- 5-30. Which program calculates Sunrise, Sunset, Twilight, Moonrise, Moonset, percent Lunar illumination, and Solar/Lunar azimuth angles?
1. Contour Digitization
 2. Map Creation
 3. Solar/Lunar Almanac
 4. Environmental Observation Plot
- 5-31. Which program will draw contoured isolines to plotted data?
1. Weather Analysis
 2. Warnings Plot
 3. Observation Plot
 4. Map creation
- 5-32. Which program calculates LCL, CCL, LFC, Freezing Level, SSI, and Contrail Formation probabilities?
1. Ballistic Wind and Density
 2. Radiosonde Initial Analysis
 3. Aircraft Icing
 4. Tomahawk Environmental Support
- 5-33. Which program will calculate a radar coverage diagram for hostile surface-based air search radar?
1. Electromagnetic Coverage
 2. Electromagnetic Path Loss versus Range
 3. Surface Search Radar Range Tables
 4. Electronic Support Measures Radar Range Tables

- 5-34. Which program calculates changes in ocean-water temperature due to mixing, heat fluxes, precipitation, and evaporation?
1. Sound Speed Profile
 2. Ocean Data Analysis
 3. Ray Trace
 4. Near Surface Ocean Thermal Structure
- 5-35. Which program predicts the amount of sonic interference produced by shipping, winds, and other sources within the ocean?
1. Passive Acoustic Propagation Loss
 2. Range Independent Propagation Loss
 3. Sensor Performance Prediction
 4. Ambient Noise
- 5-36. When an incorrectly gridded polar orbiting satellite image is displayed on the TESS system, which program can use an identifiable geographic feature to correct the latitude/longitude grid placement?
1. Earth Locate
 2. Path Finder
 3. Display
 4. Acquire
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- Learning Objective: Define the term OPARS and identify the purpose of OPARS.
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- 5-37. Other than "Flying Safety", what is the primary purpose of OPARS?
1. To select the quickest flight route between the departure point and destination
 2. To provide the pilot with a detailed flight route for his flight plan
 3. To provide navigational aid frequencies along a pilot's intended flight route
 4. To save fuel

Learning Objective:

Identify the 11 different OPARS computer flight plan formats and identify which formats contain flight level winds and flight level temperatures.

5-38. In order to properly use OPARS, the requestor should do which of the following?

1. Draw a line on an air navigation chart from departure point to arrival point and pick intermediate locations along the line to define the flight path for OPARS
2. Obtain a copy of the pilot's flight plan, and pass the pilot's planned flight route and flight levels to the OPARS computer
3. Let OPARS select the flight route, and if possible, the flight levels
4. Define and enter predesignated flight routes and altitudes in the OPARS computer in advance, then "tell" OPARS to use a predesignated route for a particular flight

5-39. When using OPARS, much time is saved because the forecaster need not look at any other flight level wind or temperature products.

1. True
2. False

5-40. Which of the following information is NOT included in the HOW and ABB OPARS formats?

1. Flight identification data
2. Fuel/Time/Weight summaries
3. En route data

5-41. Which format should only be used for flight preplanning?

1. 1KB
2. TAC
3. ABB
4. MAC

5-42. Which format(s) is/are designed to be easily used with an aviation kneeboard device?

1. All numbered "KB" formats
2. STA format
3. TAC format
4. ABB format

5-43. Which OPARS format is specifically designed for bombing missions and para-drops?

1. MAC
2. TAC
3. 9KB
4. STA

5-44. Which formats provide flight level winds?

1. Only 1KB, 2KB, 3KB, 5KB, TAC, and MAC
2. Only 1KB, 2KB, TAC and MAC
3. All KB formats, TAC and MAC
4. Only TAC and MAC

5-45. Which of the following formats provide both flight level winds and flight level temperatures?

1. All of the formats
2. All formats except ABB and HOW
3. Only 1KB, 2KB, TAC, and MAC
4. Only the STA format

Learning Objective:

Interpret the information presented in the Flight Identification Data section.

- 5-46. Which of the following information is NOT provided in the Flight Identification Data section?
1. The void time of the CFP
 2. Aircraft type
 3. Estimated time of departure
 4. Fuel use and flying time
- 5-47. In the flight route section of the Flight Identification Data, how should you interpret a radial such as XYZ50?
1. A point along the flight route from the previous point 50 nautical miles out from navaid XYZ
 2. On a route named XYZ, proceed a total of 50 nautical miles
 3. From the last specified point, proceed 50 nautical miles toward navaid XYZ
 4. On route from the previous point, turn right to 050° over point XYZ
- 5-48. What does the OPARS MAC format provide instead of a specific departure time?
1. Departure time to the nearest hour
 2. Departure window of 2 hours (±1 hour from intended departure time)
 3. Departure window of 4 hours (±2 hours from intended departure time)
 4. Departure window of 8 hours (±4 hours from intended departure time)
- 5-49. When used in an OPARS flight route summary, what does \$R mean?
1. Non-controlled VFR flight
 2. Flight route choice left to pilot
 3. Direct point-to-point flight
 4. On and off jet routes; jet routes used when available
- 5-50. In the Fuel/Time/Weight summary, what information is found under the heading "RAMP"?
1. The length of the taxiway ramp
 2. The total weight of the loaded aircraft before it taxis for takeoff
 3. The total weight of the loaded aircraft as it touches down on the destination runway
 4. The unfueled weight of the aircraft
- 5-51. What does the term OPNLWT mean?
1. Weight of the aircraft with fuel and cargo
 2. Weight of the aircraft with fuel
 3. The total weight of only the fuel and cargo to be carried on an aircraft
 4. The unfueled empty (except for crew and crew baggage) weight of the aircraft
- 5-52. What does the figure for FUEL BIAS include?
1. Fuel required for engine start, taxi, and takeoff
 2. Fuel required for engine start and taxi
 3. Fuel required for engine start only
 4. Fuel loss due to evaporation, leakage, or excess use caused by an improperly tuned or inefficient engine

Learning Objective:
Interpret the
Fuel/Time/Weight summary.

- 5-53. What does the figure for IBIAS include?
1. Extra fuel weight for an intermediate in-flight holding pattern
 2. Extra fuel weight for an arrival in-flight holding pattern or extra fuel weight required to keep engines running while unloading and reloading at an intermediate stop
 3. Extra fuel weight for a departure area in-flight holding pattern or a hold on the departure taxiway/runway
 4. Extra fuel weight required to compensate for the extra weight on the aircraft if airframe icing is expected to be encountered during the flight

5-54. The data identified as FL/FUEL/ETE provides which of the following information?

1. Data for total fuel use and estimated flying time at alternate flight levels
2. The fully loaded weight of the aircraft (as opposed to the partially loaded weight planned), the extra fuel required, and the total flying time to destination
3. The fuel load amounts and the flight times required for several different fuel loads
4. A summary of information entered in other locations on the CFP

5-55. In the OPARS MAC format, which line number in the summary provides total flying time from departure point to arrival point?

1. 1
2. 8
3. 3
4. 4

5-56. Which line in the MAC format summary provides the figure for total fuel burn from flight departure start-up through arrival taxi?

1. 1
2. 7
3. 10
4. Last line labeled B/O

Learning Objective:
Interpret the Enroute Data.

5-57. What does the information labeled as *TOC* refer to?

1. Take Off Control point
2. The point where the local air traffic controller is expected to pass control to the FAA Technical Operations Center
3. The point where the local air traffic controller will relinquish control of the aircraft to the pilot and the aircraft will operate under total operator control
4. The Top Of Climb point

5-58. In the figures given for total wind factor (FWF or WF), enroute wind factors between points (WF), and partial wind factors (WF1 or WF2), what does a minus sign (-) indicate?

1. An overall tailwind
2. An overall headwind
3. An overall starboard wind resulting in a port drift
4. An overall port wind resulting in a starboard drift

REFER TO TABLE 4-6-3 IN THE TRAMAN FOR QUESTIONS 5-59 THROUGH 5-61.

5-59. Which CFP formats include flight levels in hundreds of feet?

1. All formats
2. Only 2KB, STA, TAC, and MAC
3. Only 1KB, 3KB, 4KB, 5KB, and 9KB
4. Only MAC

5-60. In the 2KB format, what abbreviation is used for the flying distance from the last specified point?

1. D
2. DIS
3. DST
4. ZD

5-61. Which formats could a pilot use if specific drift corrections are desired in the flight plan?

1. Only 1KB, 3KB, and 5KB
2. Only TAC and MAC
3. Only 1KB, 2KB, 3KB, 5KB, and 9KB
4. All formats

REFER TO TABLE 4-6-2 IN THE TRAMAN TO ANSWER QUESTIONS 5-62 THROUGH 5-72.

5-62. In the CFP in table 4-6-2, what is the planned departure time of the flight?

1. 0807Z
2. 0700Z
3. 0107Z
4. 0000Z

5-63. How old will the data that the CFP is based on be by the departure time?

1. 7 hr
2. 19 hr
3. 31 hr

5-64. How long will it take from departure time for the aircraft to arrive at the cruising flight level?

1. 1 min
2. 20 min
3. 21 min
4. 44 min

5-65. At which of the following locations will the aircraft reach cruising altitude?

1. 35°04.4'N 119°29.4'W
2. 35°46.1'N 120°13.7'W
3. 35°38.8'N 119°58.7'W
4. 36°35.3'N 121°50.9'W

5-66. Which, if any, of the following amounts correctly lists the total fuel required to be onboard the aircraft (including NATOPS required reserve fuel)?

1. 4,805 gal
2. 4,805 lb
3. 12,143 lb
4. None of the above; the NATOPS required minimum fuel load is not specified in this CFP format

5-67. How much fuel will actually be used during the flight?

1. 664 lb
2. 4,805 lb
3. 12,143 lb
4. 12,804 lb

5-68. How much more or less time would it take for the aircraft to reach the destination if it were to fly at 23,000 feet?

1. 1 min longer
2. 3 min longer
3. 3 min less
4. 4 min longer

5-69. Which flight level did OPARS select as the best level for the aircraft to fly?

1. 800 ft
2. 8,000 ft
3. 2,900 ft
4. 29,000 ft

5-70. According to the information provided, how much more or less fuel would the aircraft require if it were to fly at 23,000 feet instead of the planned flight level?

1. About 200 lb more
2. About 2,000 lb more
3. About 5 lb less
4. About 50 lb less

5-71. What are the average flight level winds over REYES?

1. 341° at 27 kt
2. 340° at 25 kt
3. 341° at 32 kt
4. Unknown; flight level winds are not provided in this format

5-72. What is represented by the term REYES, as used in the flight plan?

1. A navigation aid
2. A radial
3. A jet route
4. An IFR reporting point